

"NEW INGERSOLL" ROCK DRILLS

INGERSOLL-RAND COMPANY

11 BROADWAY, NEW YORK

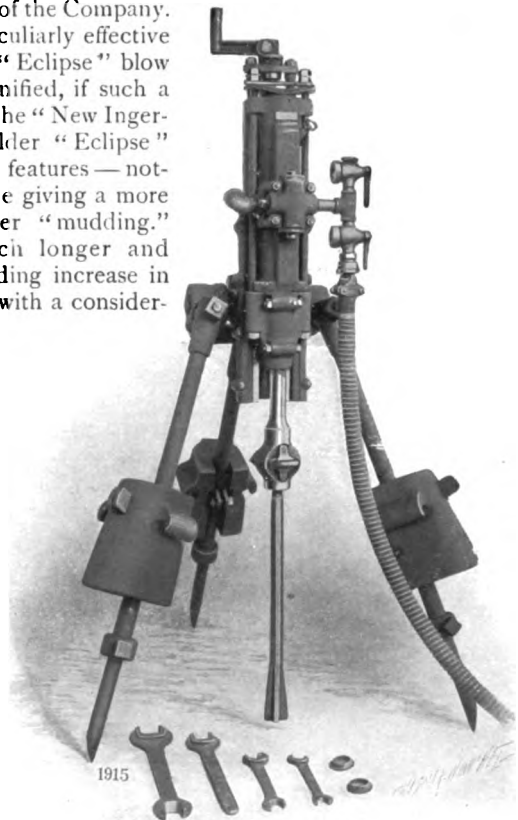
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THE "New Ingersoll" Drill is a combination of the best "Sergeant" features with the independent valve motion of the well-known Ingersoll "Eclipse" Drill, the resulting machine being one of extreme simplicity and of great efficiency and durability, but with a more limited field of application than the later types of the Company.

In this design the peculiarly effective quality of the well-known "Eclipse" blow is preserved or even magnified, if such a thing were possible. But the "New Ingersoll" differs from the older "Eclipse" Drill in several important features — notably in a lengthened stroke giving a more powerful blow and better "mudding." The piston is also much longer and heavier, with a corresponding increase in the force of the blow and with a considerable gain in the size of the wearing surfaces, the latter insuring durability, freedom from sticking, sustained tightness of working parts, and a full piston stroke. The rotation and other important parts are of the "Sergeant" design.

The "New Ingersoll" Drill has an independent air-thrown valve, the action of which is controlled by the movement of the piston. It has the variable stroke so necessary in working in caving, seamy, or broken ground; while its quick return "muds" the hole well. The blow is practically uncushioned and is of a particularly effective, penetrating character. With compressed air or with reasonably dry steam the "New Ingersoll" Drill will give excellent results in any ordinary material to which percussion drills are suited.



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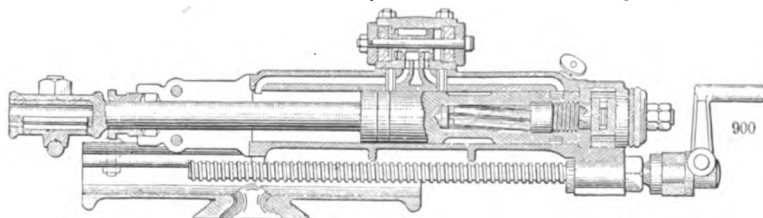
In selecting a drill for any duty, a clear distinction should be drawn between rocks which are merely hard, and those which are to be more properly described as tough — between a rock which will chip, and one which will crush or pulverize. There is a very wide field in which the "New Ingersoll" Drill will do more and better work than any other type. There are old customers, who have used the Company's machines throughout their development of the past thirty years, who still claim that the



"New Ingersoll" Valve, Valve Guide
Buffers, and Chest

"New Ingersoll" is the best drill ever built. No doubt this is true in their particular case. There are other cases, however, in which the "Sergeant," "Little Giant," or "Arc Valve" Drills may with equal justice be said to be "the best." The question is fundamentally one of drilling conditions, but also very largely one of personal preference. There can be no doubt, however, that the "New Ingersoll" has in many of its sizes proven to be one of the best "all-around" drills on the market.

This type of drill has always been a favorite in the "F," "G," "H," and "K" sizes, for heavy contract work, for quarrying, and



Longitudinal Section of "New Ingersoll" Drill

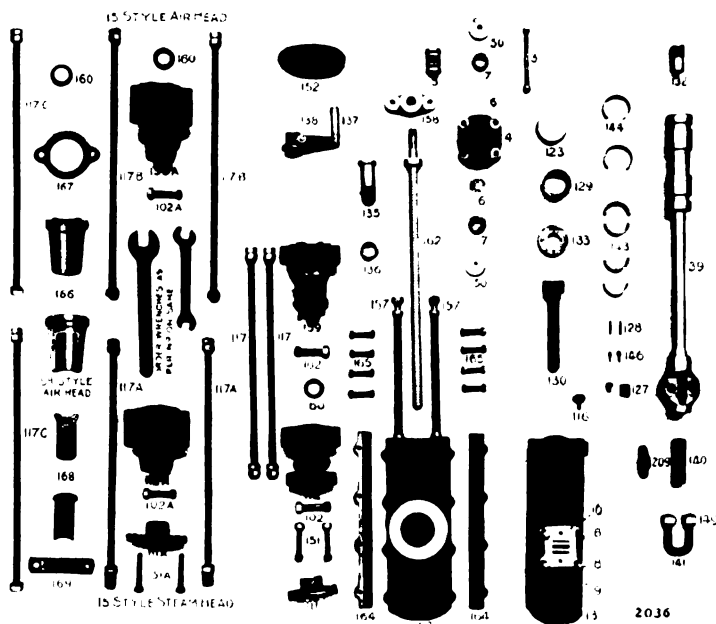
for submarine excavation. It is certain that the "New Ingersoll" as a large drill has never been surpassed in economy, capacity, and endurance. But a construction which gives perfect satisfaction in large machines may not necessarily be the best one for smaller sizes. For instance, in the four large sizes just mentioned, generous bearing surfaces are possible throughout, and the rapid deterioration due to high speeds with small wearing surfaces is avoided. As representing later and more up-to-date constructions, the "Sergeant," "Little Giant," and "Arc Valve" models, in the "A," "B," "C," "D," and "E" sizes, are generally to be preferred. The "F" size is a particularly satisfactory machine in almost any of these models, and the choice of a type is largely a matter of rock characteristics, drilling conditions, and personal preference. The "New Ingersoll" Drill, therefore, continues to be built principally to meet the demands of old customers who will not have any other.

DESCRIPTIVE TABLE OF "NEW INGERSOLL" ROCK DRILLS (9 Type)

Symbol indicating size and type	B 9	C 9	D 9	E 9	F 9	G 9	H 9
DIMENSIONS:							
Diameter of cylinder.....	2½	2½	3½	3½	3½	4½	5½
Length of stroke.....	6	6½	6½	6½	7	9	8
Length of drill from end of crank to end of piston.....	41	44	48	48	50	58½	60
Depth of hole drilled without change of bit.....	20	24	24	24	24	30	30
Diameter of supply inlet (standard pipe).....	3	1	1	1	1	1½	1½
Approximate strokes per minute with 75 lbs. pressure at drill	50	375	350	350	300	250	250
Depth of vertical hole each machine will drill easily, from							
to.....	8	10	14	16	20	27	32
Diameter of holes drilled as desired, from.....	1 to 1½	1½ to 2½	1½ to 2½	1½ to 2½	1½ to 3	2 to 4	3 to 6
Average work done per 10 hours in granite down holes, in-							
cluding time lost in setting drill and changing bits.....	70	70	70	75	75	75	75
Diameter of octagon steel used.....	1 and ⅞	1½ and 1	1½ and 1½	1½ and 1½	1½ and 1½	1½ and 1½	1½ and 1½
Size of shanks (diameter and lengths).....	⅞ x 5	1 x 6½	1½ x 6	1½ x 6	1½ x 6	1½ x 6½	1½ x 7
Number of pieces in set of steels to drill holes in depths, as							
stated.....	5	5	7	8	10	11	13
Best size of boiler to give plenty of steam at high pressure..	8 H. P.	8 H. P.	8 H. P.	10 H. P.	10 H. P.	15 H. P.	18 H. P.
Best size of supply pipe to carry steam 100 to 200 ft.....	1	1	1	1	1½	1½	1½
APPROXIMATE WEIGHTS:							
Drill, unmounted, with wrenches and fittings, not							
boxed.....	170	245	275	280	405	760	930
Drill, unmounted, with wrenches and fittings boxed.....	210	280	325	330	400	580	1170
Tripod, without weights, not boxed.....	165	165	165	210	275	310	340
Tripod, without weights, boxed.....	220	220	220	265	340	400	440
Holding down weights, not boxed.....	285	285	285	330	375	375	375
Holding down weights, boxed.....	285	315	315	360	420	420	420
Drill, tripod, weights, fittings, and wrenches, boxed	725	825	865	950	1220	1810	1990
Drill and tripod, without weights and wrenches, not boxed	324	391	426	466	661	1045	1200
One set of steels, bundled.....	66	101	229	292	536	1144	2080
One length of hose coupled, boxed.....	105	105	105	105	105	120	120
SHIPPING MEASUREMENTS (OVER ALL):							
Box with unmounted drill and fittings.....	3' 10" 1" 0" 10"	4' 1" 0" 11"	4' 1" 0" 11"	4' 1" 0" 11"	4' 1" 0" 11"	5' 2" 1" 10"	5' 2" 1" 10"
Box with tripod.....	4' 1" 0" 10"	4' 1" 0" 10"	4' 1" 0" 10"	4' 1" 0" 10"	4' 1" 0" 10"	5' 1" 0" 0" 11"	5' 1" 0" 0" 11"
Box with three weights.....	2' 7" 1" 0" 10"	2' 7" 1" 0" 10"	2' 8" 1" 0" 10"	2' 8" 1" 0" 10"	2' 8" 1" 0" 10"	2' 10" 1" 4" 10"	2' 10" 1" 4" 10"
Box with one length of hose.....	2' 10" 2" 8" 0" 6"	2' 10" 2" 8" 0" 6"	2' 10" 2" 8" 0" 6"	2' 10" 2" 8" 0" 6"	2' 10" 2" 8" 0" 6"	2' 11" 2" 1" 0" 6"	2' 11" 2" 1" 0" 6"
PRICES (F.O.B. EASTON OR NEW YORK) AND TELEGRAPH							
NAMES.....	Vogelacuer	Vogelachia	Vogelacido	Vogelacier	Vogelacina	Vogelacion	Vogelaciam
Drill unmounted, with wrenches and fittings, without tripod	\$225	\$250	\$275	\$300	\$320	\$365	\$700
or column.....							
Tripod and weights.....	50	50	50	50	55	65	65
Drill complete, with tripod, weights and fittings.....	Vogelacuer	Vogelaciam	Vogelaciam	Vogelacina	Vogelacina	Vogelaciam	Vogelaciam
	\$275	\$300	\$325	\$350	\$375	\$430	\$765

NOTE.—*Drill complete* includes drill, tripod, bit, and wrenches, but does not include steel, hose, or blacksmith's tools. If mounted, tripod and weights, or column and wrenches are included. For full information and prices on Tripods, Columns, Hoists, and Blacksmith's Tools, see Pamphlet No. 9003, and for Steel, see Pamphlet No. 9004.

"NEW INGERSOLL" ROCK DRILLS



"NEW INGERSOLL" ROCK DRILLS

Sizes B^o, C^o, D^o, E^o, F^o

DUPLICATE PART LIST

NUMBER AND NAME OF PART

- 3 Valve Guide and Nut
- 4 Valve Chest Bare
- 5 Valve
- 6 Valve Washer
- 7 Valve Buffers
- 8 Steam Chest Studs and Nuts
- 9 Exhaust Port Bushing (front)
- 10 Exhaust Port Bushing (back)
- 13 Cylinder Bare
- 39 Piston Bare
- 50 Steam Chest Cover
- 102 Front Head Bolts and Nuts
- 102A Front Head Bolts and Nuts for 15 Style Head
- 111 Split Gland
- 111A Split Gland for 15 Style Head
- 112 Split Front Head for Steam
- 112A Split Front Head for Steam, 15 Style
- 115 Thumb Screw
- 117 Through Bolts and Nuts
- 117A Through Bolts and Nuts for 15 Style Steam Head
- 117B Through Bolts and Nuts for 15 Style Air Head
- 123 Back Head
- 127 Rotating Pawl
- 128 Pawl Springs
- 129 Rotating Ratchet
- 130 Rifle Bar

NUMBER AND NAME OF PART

- 132 Brass Nut
- 133 Rotation Washer
- 135 Feed Nut
- 136 Feed-nut Nut
- *136 Feed-nut Lock Washer
- 137 Crank
- 138 Crank Bolt and Nut
- *154 Crank Washer
- 140 Piston Bushing
- 141 U Bolt
- 143 Piston Ring
- 144 Piston Ring Spring
- 146 Pawl Plunger
- 149 U Bolt Nut
- 151 Gland Bolt and Nut
- 151A Gland Bolt used with 15 Style Steam Head
- 152 Cushion Springs
- 157 Standard and Nut
- *257 Standard Positive Lock Washer
- 158 Cross-head
- 159 Special Front Head (for air only)
- 159A Special Front Head (for air only) 15 Style
- 160 Cup Leather
- 162 Feed Screw Square Thread
- 163 Shell without Caps
- 164 Square Guide Shell Cap
- 165 Shell Cap Bolt
- 209 Chuck Key

NOTES—Where the same drill parts are shown a number of times in cut, but in modified forms, letters A, B, etc., are added to the numbers to distinguish them. Either part can be used on the drill. The "15" Style air and steam heads or the "140" pattern only can be used on any old drill, providing no through bolts are or are not suitable for the head. When ordering duplicate parts always give the SYMBOL of the DRILL (which is cast on the side of the cylinder) and the NUMBER of the DRILL (which is stamped on the front of the cylinder, near the top), also number and name of the parts on order list.

* Not shown in the illustration.